



United States
ENVIRONMENTAL PROTECTION AGENCY

OMB Control No. 2070-0020
Expires on 11/30/2016

Washington, DC 20460

Notice of Arrival of Pesticides and Devices

Send Completed Form to Appropriate Regional Office Listed in the Instructions for this Form.

Note: Read Instructions before completing form.

Part 1: To Be Completed by Importer of record or Licensed Customs Broker

1. Name and Complete Address of Licenced Customs Broker

Expeditors International Attn: Isabelle Woodward
Seattle Branch Phone: 206.826.4106
19119 16th Ave S.
Seatac, WA 98188

2. Name and Complete Address of Importer of Record

Nufarm Americas Inc.
11901 South Austin Avenue
Alsip, IL 60803 T: 708-377-1330

☐ Return Form to this Address

☒ Return to this Address

3. Name and Complete Address of Shipper

Lier Chemical Co Ltd
No. 191, Linyuan Zhonglu Road
Mianyang Sichuan China 621000

4. EPA Registration Number

35935-100

5. EPA Producer Establishment No.

75487-CHN-001

6. Brand Name of Product

Glufosinate-Ammonium Technical

7. Active Ingredients and Percentage of Each

Glufosinate-ammonium 96.7%

8. Unit Size

500 KG

9. Quantity

20

10. Total Net Weight

10,000 Kg

11. Country of Origin

China

12. Port of Entry

Tacoma WA

13. Name and Complete Address of Carrier

APL Office
APL Ltd. USA
3443 West Marginal Way SW
Washington
98106
United States

14. Entry Number

231-9701350-5

15. Anticipated Entry Date

12-21-14

17. Location of Goods for Examination after Importation

Washington United Terminal Tacoma WA
Firms code Z705

16. I assert that information constituting Confidential Business Information is shown in the above blocks numbered: (Note: Blocks 4, 5, 6 and 7 are not entitled to CBI treatment--see instructions.)

18. [Optional] For pesticides without an EPA Registration No., select all that apply: (The following information may expedite the processing of the Notice of Arrival.)

☐ 18a. A pesticide transferred between registered establishments operated by the same producer. Domestic Producer Establishment Number: _____

☐ 18b. A pesticide transferred between registered establishments not operated by the same producer. Domestic Producer Establishment Number: _____ EPA Registration Number of Product being Formulated, if applicable: _____

☐ 18c. A pesticide distributed under an Experimental Use Permit. Experimental Use Permit Number: _____

EPA Registration Number: 35935-100	Product Name: Glufosinate-Ammonium Technical
Total Net Weight: 10,000 Kg	Entry Number: 231-9701350-5

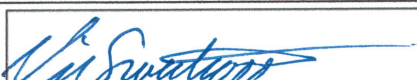
- ☐ 18d. A Pesticide distributed for research and development purposes without an Experimental Use Permit.
- ☐ 18e. A pesticide transferred solely for export. Domestic Producer Establishment Number: _____
- ☐ 18f. A pesticide distributed under an emergency exemption. Emergency Exemption Number: _____
- ☐ 18g. A pesticide transferred for the purposes of disposal.
- ☐ 18h. Other. Provide an explanation including the intended use and a description of why the product is being imported into the United States in Block 19 -- Remarks.

19. Remarks. Provide additional information here. It is recommended that a copy of the label affixed to the product be submitted with the NOA.

see attached documentation

Certification

I certify that the statements I made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

20. Printed Name of Importer of Record or Licensed Customs Broker	Vic Sweetwood	Telephone No.:	708-757-2904
21. Signature of Importer of Record or Licensed Customs Broker:		Date:	December 17, 2014

Part II: To Be Completed by U.S. Environmental Protection Agency

Action to be taken by U.S. Customs and Border Protection:

- ☒ Release Shipment ☐ Detain for inspection ☐ Release shipment to consignee under bond. Shipment must be held intact pending inspection.
- ☐ Other. (Specify)

Remarks:

Signature and Title of EPA Official:

Date: 12/17/14

Part III: To Be Completed by U.S. Customs and Border Protection

The information shown in Part I was compared with the entry papers for this shipment and no discrepancies were noted. The shipment was handled as instructed by EPA in Part II. Any deviations should be brought to the attention of EPA before releasing the shipment and should be noted in "Remarks."

Remarks:

Signature of District Director of Customs:

Date:

Paperwork Reduction Act Notice: The estimated average time to read the instructions and complete this form is 26 minutes. Send comments regarding the burden estimates or any other aspect of this collection of information to: Director, Collection Strategies Division, Office of Environmental Information (OEI), U.S. Environmental Protection Agency (Mail Code 2822), 1200 Pennsylvania Avenue, NW, Washington, DC 20460. Include OMB number 2070-0020 in any correspondence.



Notice of Arrival

SHIPPER (Principal or Seller licensee and full address) NUFARM CHEMICAL (SHANGHAI) CO., LTD. 25DINTERNATIONAL SHIPPING&FINANCE BUILDING, 720 PUDONG AVE, HANGHAI, CHINA TEL:021-50367200 FAX:021-50367203		B/L NUMBER 067743063	PAGE
CONSIGNEE (Non-Negotiable Unless Consigned to Order.) NUFARM AMERICAS INC 11901 SOUTH AUSTIN AVENUE ALSIP, IL 60803 CONTACT: VIC SWEETWOOD (PH) 708 757 2904 (FAX) 708 755 **		EXPORT REFERENCES	
NOTIFY PARTY/INTERMEDIATE CONSIGNEE (Name and Full Address) SAME AS CONSIGNEE		FORWARDING AGENT (References) SINOTRANS EASTERN COMPANY	
INITIAL CARRIAGE (MODE)*		POINT AND COUNTRY OF ORIGIN SHANGHAI, CHINA	DATE EXPORTED NOV. 23, 2014
IMPORTING VESSEL AND VOYAGE H. MERCURY V038		DOMESTIC ROUTING / EXPORT INSTRUCTIONS / ALSO NOTIFY BL TYPE:SW , DELIVERY MODE:CY , CAD:Y EXPEDITORS INTERNATIONAL 849 THOMAS DRIVE BENSENVILLE, IL 60106, USA***	
PORT OF DISCHARGE TACOMA		OBL VES/VOY: H. MERCURY V038	
PLACE OF RECEIPT*		THIS CARGO TO BE CLEARED AT TACOMA PRIOR TO MOVEMENT TO CHICAGO	
PORT OF LOADING SHANGHAI			
PLACE OF DELIVERY* CHICAGO			
ARRIVAL NOTICE		Payment by Cheque must be made to the order of APL Co. Pte Ltd	
MARKS AND NUMBERS.		DESCRIPTION OF PACKAGES AND GOODS (PARTICULARS FURNISHED BY SHIPPER)	
NO. OF PKGS.		GROSS WEIGHT	
		MEASUREMENT	

***** PLEASE NOTE *****
ARRIVAL NOTICE HAS BEEN REVISED DUE TO CHANGE
IN LOCATION OR ESTIMATED TIME OF ARRIVAL
***** END OF NOTE *****
N/M 20 BAGS SLAC A) LV00007.00.00 CY/CY
GLUFOSINATE AMMONIUM TECHNICAL
HS:2931901917
**2413 NUFARM.IMPORTS@US.NUFARM.
COM***ATTN: BRYNN WISZ T: 630 616
2318
FREIGHT PREPAID

10080.00KG 20.000M3
22222.56LB 706.294CF

CTR NBR **SEAL NBR** T/S/HT REC/DEL QUANT/TYPE
GLDU209195-2 AN40350152 D2086 CY/CY 20 BAGS

FREIGHT RATES, CHARGES, WEIGHTS, AND / OR MEASUREMENTS					LOCAL CHARGES			
SUBJECT TO CORRECTION		PREPAID (US\$)		COLLECT (US\$)				
					ETA TO DESTINATION DEC. 28, 2014		PIER CHI	BILL OF LADING APLU067743063
J2Z	038	TOTAL PREPAID						CY/CY
VESSEL	VOYAGE	TOTAL COLLECT						



SEA WAYBILL

Web Page Copy, Not A Negotiable Document

BL Status: Complete

SHIPPER (Principal or Seller licensee and full address) NUFARM CHEMICAL (SHANGHAI) CO., LTD. 25DINTERNATIONAL SHIPPING&FINANCE BUILDING,720 PUDONG AVE,HANGHAI,CHINA TEL:021-50367200 FAX:021-50367203	BOOKING NUMBER B/L NUMBER 067743063 APLU 067743063 EXPORT REFERENCE CR# SHHY1411E0014751
CONSIGNEE (Non-Negotiable Unless Consigned to Order.) (Unless provided otherwise, a consignment "To order means To Order of Shipper.) NUFARM AMERICAS INC 11901 SOUTH AUSTIN AVENUE ALSIP,IL 60803 CONTACT: VIC SWEETWOOD (PH) 708 757 2904 (FAX) 708 755 **	FORWARDING AGENT (References F.M.C. No.) SINOTRANS EASTERN COMPANY
NOTIFY PARTY (Name and Full Address) SAME AS CONSIGNEE INITIAL CARRIAGE (MODE) PLACE OF RECEIPT SHANGHAI, CHINA EXPORT CARRIER (Vessel, voyage, flag) H. MERCURY 038E PORT OF DISCHARGE SEATTLE SSA TERMINAL PLACE OF RECEIPT PORT OF LOADING SHANGHAI, CHINA PLACE OF DELIVERY CHICAGO,IL	POINT AND COUNTRY OF ORIGIN OF GOODS SHANGHAI, CHINA 200432 ALSO NOTIFY/Domestic Routing/Export Instructions/ Pier Terminal/Onward Routing From Point Of Destination ALSO NOTIFY: EXPEDITORS INTERNATIONAL 849 THOMAS DRIVE BENSENVILLE, IL 60106, USA***

Excess Valuation Please refer to Clause 7 (iii) on Reverse Side **PARTICULARS FURNISHED BY SHIPPER** Payment by Cheque must be made to the order of AMERICAN PRESIDENT LINES, LTD

MKS. & NOS/ Container NOS.	No. OF PKGS DESCRIPTION OF PACKAGES AND GOODS	GROSS WEIGHT MEASUREMENT
N/M	SC GB14/0223E 20 BAGS SLAC CY/CY 10080.000KG 20.000M3 GLUFOSINATE AMMONIUM TECHNICAL HS:2931901917 **2413 NUFARM.IMPORTS@US.NUFARM. COM***ATTN: BRYNN WISZ T: 630 616 2318 FREIGHT PREPAID	

CTR NBR* **SEAL NBR**** T/S HT MODE QUANT/TYPE WEIGHT MSMT
GLDU209195-2 AN40350152 D20 86 CY/CY 20 BAGS 10080.00KG 20.000M3
TOTAL 20 BAGS 10080.00KG 20.000M3

**** SHIPPER'S LOAD, STOW AND COUNT ****

B/L NUMBER TO BE RELEASED AT SHANGHAI, CHINA

OCEAN FREIGHT PAYABLE AT SHANGHAI, CHINA

FREIGHT RATES CHARGES, WEIGHTS AND/OR

MEASUREMENTS (SUBJECT TO CORRECTION)

PREPAID U.S. \$ COLLECT U.S. \$ Local Currency

JZZ 038 TOTAL PREPAID

Vessel Voyage Office TOTAL
COLLECT

13988001

00713832

00344599

SHA

XMY

CHI

Y

APLU
067743063

FCC FORWARDER SHIPPER CONSIGNEE

LD. PORT

DIS. PORT DEST. NOTIFY CSC

B/L
NUMBER

Issued Date NOV.
23,2014

Thank You For Shipping AMERICAN PRESIDENT
LINES, LTD

Place
Issued



Nufarm Services
(Singapore) Pte. Ltd.
Company Registration
No. 199301456W
391B Orchard Road
#23-01 Ngee Ann
City Tower B
Singapore 238874
Tel: +65 6227 5575
Fax: +65 6227 5735

PACKING LIST

Nufarm Americas Inc.
11901 South Austin Avenue
Alsip, IL 60803, U.S.A.

No. : 140508
Date : 23 November 2014
Order ref. : 23084-1

Description of Goods	Number of Packages	Net Weight	Gross Weight
GLUFOSINATE AMMONIUM TECH	20 bags	10,000 kg	10,080 kg
Total Quantity: 20 bags x 500 kg, loaded into 1 x 20' container			

Delivery: By sea freight from Shanghai, China to Port of Chicago Rail, IL, USA
Container / Seal No.: GLDU2091952 / AN40350152
Country of Origin: China
Shipping Marks: N/M

For and on behalf of
Nufarm Services (Singapore) Pte. Ltd.

Grow a better tomorrow.



Nufarm Services
(Singapore) Pte. Ltd.
Company Registration
No. 199301456W
391B Orchard Road
#23-01 Ngee Ann
City Tower B
Singapore 238874
Tel: +65 6227 5575
Fax: +65 6227 5735

23 November 2014

CERTIFICATE OF ORIGIN

TO WHOM IT MAY CONCERN,

We hereby certify that the GLUFOSINATE AMMONIUM TECH shipped under Bill of Lading number APLU 067743063 been manufactured in the Republic of China.

For and on behalf of
Nufarm Services (Singapore) Pte. Ltd.

A handwritten signature in black ink, appearing to be 'H. S.', is written over a horizontal dotted line.

Grow a better tomorrow.



SHANGHAI JOYWING INTERNATIONAL TRANSPORTATION CO., LTD
Add: DeBao Road NO.376 No.28 the west part of department Waigaoqiao Free Trade
Zone Pudong. Shanghai china. 200131
Tel: 0086-021-50483636*4753 Fax: 0086-021-50484753 E-fax: 021-51714651*107
Contact: Rachel Lisa
Ship Name: HYUNDAI MERCURY Voyage Number: 038E
Container or Bill Of Lading Number: APLU067743063
GLDU2091952

PROHIBITED PACKAGING MATERIAL STATEMENT

(Such as Straw, Bamboo, Peat, Hay Chaff, used fruit and vegetable cartons etc.)

Have prohibited packaging materials or bamboo products been used as packaging or dunnage in the consignment covered by this document

YES ☐ NO ☒

TIMBER PACKING

(Timber packing includes: Crates, dunnage, pallets skids and any other timber used as a shipping aid.)

Has Timber packing been used in the consignment listed above?

YES ☐ NO ☒

ISPM 15: Is all the timber packing marked with ISPM 15 compliant stamps

YES ☐ NO ☒

**REMARKS; ALL PALLETS ARE CONSTRUCTED FROM RECONSTITUTED /
MANUFACTURED TIMBER**

BARK

(Bark is the external layer covering trees and branches.)

If timber packing is used, is it free from bark?

YES ☐ NO ☒

If goods are not free of plastic wrapping does the plastic wrapping have holes in it to allow the fumigant to penetrate or was the plastic wrapping added after fumigation.

YES ☒ NO ☐

CONTAINER CLEANLINESS STATEMENT

The container(s) covered by this document has/have been cleaned and is/are free from material of animal and/or plant origin and soil.

Signed: Wen Date: 2014-11-28

GLUFOSINATE-AMMONIUM TECHNICAL

For Manufacturing Use Only

ACTIVE INGREDIENT:

Glufosinate-ammonium (CAS No. 77182-82-2)..... 96.7%

OTHER INGREDIENTS:..... 3.3%

TOTAL:..... 100.0%

EPA REG. NO. 35935-100

EPA EST. NO. 75487-CHN-001

KEEP OUT OF REACH OF CHILDREN CAUTION

SEE BELOW FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed, absorbed through the skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear protective clothing and chemical resistant gloves. Remove contaminated clothing and wash clothing before reuse.

FIRST AID	
IF SWALLOWED	<ul style="list-style-type: none">• Call a Poison Control Center or doctor immediately for treatment advice• Have person sip a glass of water if able to swallow.• DO NOT induce vomiting unless told to do so by the poison control center or doctor.• DO NOT give anything by mouth to an unconscious person.• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15 to 20 minutes.• Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none">• Move person to fresh air• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice.
IF INHALED	<ul style="list-style-type: none">• Move person to fresh air• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	
NOTE TO PHYSICIAN: Glufosinate-ammonium is a glutamine synthetase inhibitor and can interfere with neurotransmitter function. Symptoms may be delayed by up to 48 hours following ingestion. There is no specific antidote. If ingested, endotracheal intubation and gastric lavage should be performed as soon as possible followed by charcoal and sodium sulfate administration.	

ENVIRONMENTAL HAZARDS

DO NOT discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. **DO NOT** discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Only for formulation into an herbicide for the following uses:

1.
 - weed control of emerged weeds in noncrop areas
 - control of weeds and grasses in residential and industrial areas
 - weed control in almonds, apples, bananas, bushberries (crop subgroup 13B), grapes, juneberries, ligonberries, tree nut (crop group 14), pistachios, rice and saia
 - weed control in glufosinate-ammonium tolerant canola, corn, cotton, soybeans and sugar beets
 - for the elimination of non-glufosinate-ammonium tolerant corn, soybeans, rice and cotton plants in seed production
2. Uses for which the U.S. EPA has accepted the required data and/or citations of data that the formulator has submitted in support of registration
3. For uses not listed on the manufacturing product label if the formulator, user group or grower has complied with the U.S. EPA submission requirements regarding support of such uses
4. Uses for experimental purposes that are in compliance with U.S. EPA requirements

STORAGE AND DISPOSAL

DO NOT contaminate water, foodstuffs, feed or seed by storage or disposal.

PESTICIDE STORAGE: Keep container tightly closed when not in use.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

CONTAINER HANDLING:

Nonrefillable container. DO NOT reuse or refill this container. Completely empty bag into manufacturing equipment. Offer for recycling if available or dispose of empty bag in sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY DISCLAIMER AND LIMITATION OF LIABILITY
The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYERS OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of the directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

(RV030614)
17129000

MADE IN CHINA
NET WEIGHT: 1102 LBS (500 KG)

MANUFACTURED FOR
NUFARM LIMITED
4020 AERIAL CENTER PARKWAY
MORRISVILLE, NC 27560



Nufarm

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****Product Name:** Glufosinate-Ammonium Technical**EPA Reg. No.:** 35935-100**Product Type:** Herbicide – For Manufacturing Use Only**Company Name:** Nufarm Limited
4020 Aerial Center Parkway
Morrisville, NC 27560
1-800-345-3330**Telephone Numbers:** For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION**PHYSICAL HAZARDS:**

May form combustible dust concentrations in air during processing.

HEALTH HAZARDS:

Acute toxicity, oral	Category 4
Toxic to Reproduction	Category 2
Specific target organ toxicity – Repeated exposure	Category 2

SIGNAL WORD:

DANGER

HAZARD STATEMENTS:

Harmful if swallowed. Suspected of damaging fertility or the unborn child. May cause damage to the organs through prolonged or repeated exposure.

**PRECAUTIONARY STATEMENTS**

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed, call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Do not eat, drink or smoke when using this product. Rinse mouth.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear chemical goggles, shielded safety glasses or a faceshield, coveralls worn over short-sleeved shirt and short pants, chemical resistant footwear plus socks, and chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils. Respiratory protection is not normally required. If exposed or concerned, get medical advice/attention.

Do not breathe dust. Respiratory protection not normally required. If dusts exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides. Get medical advice/attention if you feel unwell.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Glufosinate-ammonium	77182-82-2	96.7
Other Ingredients Including		3.3

Synonyms: 2-amino-4-(hydroxymethylphosphinyl)butanoic acid monoammonium salt

4. FIRST AID MEASURES

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Note to Physician: Glufosinate-ammonium is a glutamine synthetase inhibitor and can interfere with neurotransmitter function. Symptoms may be delayed by up to 48 hours following ingestion. There is no specific antidote. If ingested, endotracheal intubation and gastric lavage should be performed as soon as possible followed by charcoal and sodium sulfate administration.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later. Decontaminate tools and equipment following cleanup.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Nonsparking tools should be used.

Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE**HANDLING:**

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen- deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Use only appropriately classified electrical equipment and powered industrial trucks.

Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear protective clothing and chemical resistant gloves. Remove contaminated clothing and wash clothing before reuse.

STORAGE:

Keep the container tightly closed when not in use. Do not contaminate water, foodstuffs, feed or seed by storage or disposal

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Engineering Controls:**

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses or faceshield. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin wear coveralls worn over short-sleeved shirt and short pants, chemical resistant footwear plus socks, chemical resistant gloves made of any waterproof material such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils. When mixing, loading, or cleaning equipment a chemical resistant apron must be worn. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If dusts exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides. Mixers/loaders supporting aerial applications must wear a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Glufosinate-ammonium	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Fin white powder
Odor:	Mild odor
Odor threshold:	No data available
pH:	5-0
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	< 0.1 mPa @ 20° C
Vapor density:	No data available
Relative density:	1.419 g/cm ³
Solubility(ies):	1370 g/L @ 22° C
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.

Conditions to Avoid: Keep away from heat, sparks and open flame. Minimize dust generate and accumulation.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: May produce gases such as oxides of carbon and nitrogen.

Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION**Potential Health Effects:**

Likely Routes of Exposure: Eye, ingestion, inhalation, and skin contact.

Eye Contact: May cause eye irritation.

Skin Contact: May cause skin irritation.

Ingestion: Harmful if swallowed.

Inhalation: Harmful if inhaled. May cause irritation.

Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

Toxicological Data:

Data from laboratory studies conducted on Glufosinate-Ammonium Technical:

Oral: Rat LD₅₀: 1,620 mg/kg

Dermal: Rat LD₅₀: > 2,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: > 1,260 mg/L

Eye Irritation: Rabbit: Mildly irritating

Skin Irritation: Rabbit: Mildly irritating

Skin Sensitization: Guinea pigs: Not a sensitizer.

Subchronic Toxicity: Glufosinate-ammonium was well tolerated in the rat but less well tolerated in the dog in subchronic studies. Glufosinate-ammonium has demonstrated effects on the central nervous system at high dose levels in standard toxicity studies using laboratory animals.

Reproductive Toxicity: Implantation loss occurred at high dose levels in a rat multigeneration study with glufosinate-ammonium. There were no effects on male fertility.

Developmental Toxicity: Tests in the rat and rabbit indicate that exposure to high dose levels of glufosinate-ammonium may result in embryotoxicity.

Mutagenicity and Genotoxicity: Glufosinate-ammonium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION**Environmental Hazards:**

This product is practically non toxic to fish, aquatic invertebrates and birds.

Ecotoxicity:

Data on Glufosinate-Ammonium Technical:

96-hr LC ₅₀ Rainbow Trout:	>320 mg/L	Acute LD ₅₀ Bobwhite Quail	> 2000 mg/L
48-hr EC ₅₀ , Daphnia Magna	668 mg/L	Acute LD ₅₀ Mallard Duck	> 2000 mg/L
48-hr LD ₅₀ , Honeybees	354 µg/L		

Environmental Fate:

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not allow to get into surface water, drains and ground water. Drift or runoff from treated areas may adversely affect non-target plants. Apply this product as specified on the label. Do not apply when weather conditions favor runoff or drift.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

Container Handling and Disposal:

Plastic or Paper Bags: Nonrefillable container. **DO NOT** reuse or refill this container. Completely empty bag into manufacturing equipment. Offer for recycling if available or dispose of empty bag in sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Plastic Containers: Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

For rigid, Nonrefillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons or 50 lbs.) Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

For rigid nonrefillable containers that are too large to shake (i.e., with capacities greater than 5 gallons or 50 lbs) Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Fiber drums with liners: Nonrefillable container. **DO NOT** reuse or refill this container. Completely empty liner by shaking and tapping both sides and bottom to loosen clinging particles. Empty residue into manufacturing equipment. Then offer fiber drum and liner for recycling, if available.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT:

Non Regulated

IMDG:

Non Regulated

IATA:

Non Regulated

15. REGULATORY INFORMATION**EPA FIFRA INFORMATION**

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if swallowed, absorbed through the skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear protective clothing and chemical resistant gloves. Remove contaminated clothing and wash clothing before reuse.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Immediate and Delayed

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION**National Fire Protection Association (NFPA) Hazard Rating:**

Rating for this product: Health: 1 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in a manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: October 1, 2014

Supersedes: January 23, 2014